

**Leaf Key
of the
Genus *Salix* of Washington State
Scott T. Clay-Poole**

1. West of the Cascade Crest.....2
1. East of the Cascade Crest.....2 (page 3 of the key)

2. Mature leaves less than 3cm in length.....3
2. Mature leaves more than 3cm in length5

3. Underside of leaves glaucous, without pubescence and conspicuously
reticulate-veiny; upper side of leaves glabrous, dark green;
leaf length ~3/2cm wide [1.5/1 ratio]; petiole length 2-10mm;
plant up to 10cm in height; meadows, talus slopes, rocky ledges at
high altitudes in mountains, near and above timberline; Net-Leaf Willow; FACU.....*nivalis (reticulata)*
3. Underside of leaves glabrate, or if glaucous then with villous-tomentulose hairs.....4

4. Petioles reddish; upper side of leaves villous-tomentulose;
leaf length 2-3cm/.5-1.5cm [2-3/1ratio]; plant to 2m high;
foothills to high elevations, wet meadows, though tolerant
of salt and basic soil; wet meadows foothills to high elevations;
Barren Ground Willow; FACW+.....*brachycarpa*
4. Petioles not reddish; upper side of leaves glabrate;
leaves tend to wither yet remain persistent;
leaf length 1-1.5/.25-.5cm [3-4/1 ratio]; plant to 10cm high;
meadows and talus slopes at high altitudes in mountains, near
and above timberline; Cascade willow; NI.....*cascadensis*

5. Mature leaves typically with an evident, thin,
whitish, waxy coating (easily rubbed off) beneath.....6
5. Mature leaves typically not so underneath12

6. Margin definitely toothed with each tooth gland-tipped;
upper part of leaf glabrous, or very thinly hairy; leaf length
3.5-8/1.5-3.5cm [2-3/1 ratio]; petiole 5-10mm;
stipules foliaceous to 1cm, later deciduous;
mid-montane to subalpine streambanks, wet meadows and lake shores;
1-2.5m in height; Barclay Willow; FACW.....*barclayi*
6. Margins, for the most part, typically entire or very finely toothed.....7

7. Leaves lance-shaped (at least coming to a long point).....8
7. Leaves typically wider beyond the mid-point.....9

8. More or less persistently hairy beneath glabrous above;
leaves typically 3-8/.6-1.5cm [4-6/1 ratio]; 1.5-4.5m in height;
wet meadows and streambanks from foothills to fairly high elevations;
Geyer Willow; FACW+.....*geyeriana*
8. Pubescence lacking, though few hairs resident above;
leaves typically 5-10/1-3cm [3-5/1 ratio]; 2-5m in height;
watercourses in foothills and lowlands extending into lower
intermontane valleys; Heart-Leaf Willow; OBL.....*rigida*

9. Hairs beneath reddish, straight and appressed all pointing ± in
the same direction; leaves typically 3.5-8/1-3.5cm {2-3/1 ratio};
2-12m in height; streambanks and along sloughs and ditches,
lowlands to moderate elevations in mountains; Scouler Willow; FAC.....*scouleriana*
9. No reddish pubescence, upper or lower portion of the leaf.....10

10. Mature leaves typically less than 2cm wide;
length of leaves 3.5-6cm [3-7/1 ratio]; petiole 2-7mm;
height of plant 0.4-1.2m;
bogs and boggy meadows in Cascades; Bog Willow; OBL;.....*pedicularis*
10. Mature leaves typically greater than a 2cm width..... 11
11. Stipules well developed and foliaceous; leaves 9-20/3-6cm [3-4/1ratio];
petiole 5-20mm; streambanks, swampy places, roadside ditches
and not confined to maritime areas; 2-6m in height; Dune Willow; FACW*piperi*
11. Stipules mostly small and falling off early;
leaves 4-13/2-5.5cm [1.5-3/1 ratio]; petiole 5-20mm;
along seacoast and about Puget Sound within 5 miles of
salt water; 2-6m in height; Hooker Willow; FACW-*hookeriana*
12. Petiole bearing two or more large glands or irregular glandular
processes on the upper side at or near the base of the blade;
leaf typically 6-15/1-3cm [5-6/1 ratio]; stipules typically well
developed and leafy in texture, broadly rounded, gland-toothed,
2-10mm long, sooner or later deciduous; along streams, near
sea level to moderate elevations in mountains;
to 10m in height; Pacific Willow; FACW+*lasiandra*
12. Petiole without such glandular processes 13
13. Leaf edge commonly inrolled, sometimes with small callous
glands along the margin; above, sparsely hairy; beneath, dense,
long, white hairs woolly, long and unbent; leaves 4-9/1.5-3.5cm [2-3.5/1 ratio];
height 2-6m; streambanks and moist woods, lowlands to moderate
elevations in mtns.; Sitka Willow; FACW*sitchensis*
13. Leaf edges not inrolled 14
14. Blades greater than 3 times as long as wide;
margin with few scattered small sharp teeth or entire;
leaves 3-10/1-3.5cm [3-7/1 ratio]; above glabrate, some
bent or curved pubescence; beneath copiously bent or curved pubescence;
2-8m in height; streambanks; Northwest Willow; FACW.....*sessilifolia*
14. Blades less than or equal to 3 times as long as wide
and if toothed, strongly gland-tipped 15
15. Upper midrib more persistently hairy on mature leaves than
rest of upper surface; leaves 3.5-8/1.5-3.5cm [1.5-3/1 ratio];
streambanks, wet meadows and lake shores, moderate to
rather high elevations; Barclay Willow; FACW*barclayi*
15. Upper midrib not likely to have more pubescence than any
other portion of the leaf; leaves 5-8/1.7-3.5cm [1.5-3/1 ratio];
streams at moderate to high elevations; Under-Green Willow; OBL.....*commutata*

2. Lowland mountains, foothills to palouse 3
2. High montane, as high as timberline.....12

3. Leaves on either side bearing some form of pubescence..... 6
3. No pubescence on either side of leaves..... 4

4. Leaf blades broadest at or above the middle, acute to obtuse or broadly rounded at the tip; margin entire or wavy, glabrous above and have evident parallel veins and a thin, waxy coating below; blades 3.5-6cm long/0.5-2cm wide; shrub 0.4-1.2m tall; bogs, boggy meadows, lower Cascade montane; Bog Willow; OBL.....*pedicularis*

4. Leaf blades broadest near base gradually and concavely tapering to a narrow tip or sharp point; water courses lowlands to foothills.....5

5. Stipules leafy in texture, up to 1cm long or more, generally sooner or later deciduous; twigs elongate and slender (suitable for basketry); foothills and lowlands into lower intermontane valleys; Heart-Leaf Willow; OBL..... *rigida*

5. Stipules if present, diminutive; twigs slender, fragile, tending to droop; streambanks in plains and foothills; Peach-Leaf Willow; FACW.....*amygdaloides*

6. Leaf margins slightly to generally rolled back.....7
6. Leaf margins with no tendency to being rolled-back.....8

7. Hairs on underside of leaves typically straight, appressed all pointing \pm in the same direction; leaf margin entire or occasionally shallow toothed or wavy; tree to 25'; streams, lower elevations; Arroyo Willow; FACW.....*lasiolepis*

7. Hairs on underside of leaves typically densely and persistently white-woolly, tangled/matted; leaf margin entire and rolled under; shrub to 25'; streambanks and moist meadows, foothills to mid-montane; Drummond Willow; FACW.....*drummondiana*

8. Leaf length to width high, typically 5-15/1 averaging 5-15cm by 0.4-2cm; streambanks in foothills to mountains; Sandbar Willow; OBL.....*exigua*
8. Leaf length to width ratio less than 5/1.....9

9. Petiole bearing 2 or more large glands or irregular glandular processes on the upper side at or near the base of the blade; hairs consistently and persistently present at the tip of petiole and base of the blade; blades as green above as below; streams in lowlands to foothills; Pacific Willow; FACW+..... *lasiandra*
9. Petioles not so..... 10

10. Blades typically wider before or at halfway along the leaf; blades deep green above, \pm glaucous beneath, varying from persistently villous on both sides to only thinly appressed-hairy when young and soon glabrate; stipules occasionally large, leaflike and persistent; lowlands to midmontane; Bebb Willow, Coyote Willow; FACW.....*bebbiana*
10. Blades typically wider in latter half of leaf towards tip..... 11

11. Blades dark green, typically wider latter half of blade; at maturity, dark green and glabrous above and beneath sparsely reddish; straight appressed hairs all pointing \pm in the same direction (but varying from wholly glabrous both sides to somewhat puberulent above and densely velvety beneath); stipules small to large, sooner or later deciduous; lowland to midmontane; Scouler Willow; FAC..... *scouleriana*

11. Blades gray or white and wider somewhat halfway to further along towards tip; stipules can be well developed, leaflike and persistent; blades above green and more thinly pubescent than underside bearing dense woolly to silky pubescence; margin often with small, callous glands, otherwise entire, though sometimes inrolled; lowland to midmontane;

- Sitka Willow; FACW..... *sitchensis*
12. Leaves with no form of pubescence above or beneath..... 13
12. Leaves with some form of pubescence..... 15
13. Blade dark green above, glaucous, conspicuously reticulate-veiny beneath;
typical length to width ratio ~1.5/1; petiole length generally 2-15mm;
generally near or above timberline; Net-Leaf/Snow Willow; FACU..... *nivalis (reticulata)*
13. Not so, typical blade length to width ratio >2/1 14
14. Mature blade margin often pilose; blade size typically 1-1.5cm by
0.25-0.5cm on a short petiole 1-3mm long;
generally near or above timberline; Cascade Willow; NI..... *cascadensis*
14. Mature blade smooth; blade size typically 1.5-5cm by 0.7-2cm
on a distinct petiole 3-13mm long;
generally near or above timberline in Okanogan Co.; Arctic Willow; FACW- *arctica*
15. Blade glaucous beneath and \pm densely and persistently
long-villous or villous-tomentose with white hairs; slightly in-rolled margins
commonly with scattered, small and very inconspicuous gland-teeth or sessile glands;
generally near or above timberline; Rock Willow; FAC *vestita*
15. Not so 16
16. Leaf-blades flaccid, rather thinly long-hairy on both sides when young,
more conspicuously and more persistently so above than beneath,
sooner or later \pm glabrate (but not glaucous); blade finely serrulate
with callous-glandular teeth; stipules well developed, leafy in texture;
moist to boggy areas, moderate to fairly high elevations, probably not above timberline;
Tweedy Willow; FACW+..... *tweedyi*
16. Leaf-blades firm, loosely long-woolly-villous on both sides when young,
eventually glabrate, but not glaucous; blade entire or very shallowly and
inconspicuously toothed; stipules well developed, leafy in texture;
wet meadows around lakes and around late snow banks near timberline;
Under-Green Willow; OBL..... *commutata*

Glossary

glabrate. Nearly glabrous, becoming glabrous.

glabrous. Smooth, without hairs or glands.

gland. A spot on the surface of an organ or at the end of a hair which produces a sticky or greasy substance.

glaucous. Covered with a fine, waxy, removable powder which imparts a whitish or bluish cast to the surface.

pilose. With long, straight, rather soft, spreading hairs.

pubescence. Bearing hairs.

reticulate. Forming a network.

serrate. Toothed along the margin with sharp, forward-pointing teeth.

serrulate. Diminutive of serrate.

stipule. Wing-like appendage at the leaf base.

tomentose. Covered with tangled or matted, woolly hairs.

tomentulose. Diminutive of tomentose.

villous. Pubescent with long, soft, often bent or curved but not matted hairs.

The following drawings have been taken from

Hitchcock, C.L. et al. 1964. Vascular Plants of the Pacific Northwest, Part 2.
University of Washington Press, Seattle.



S. sitchensis



S. sessilifolia



S. commutata



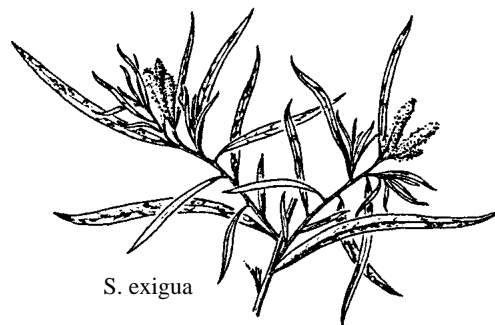
S. amygdaloides



S. drummondiana



S. lasiolepis



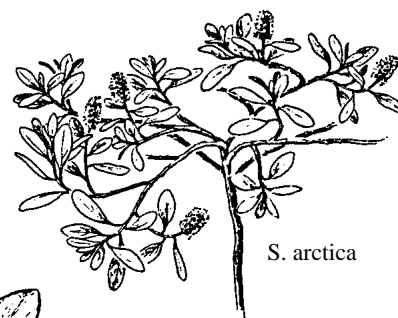
S. exigua



S. drummondiana



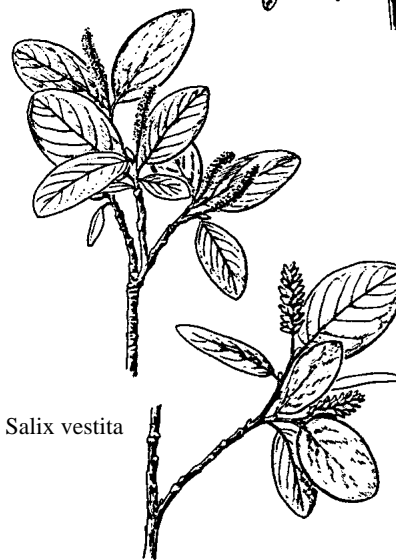
S. bebbiana



S. arctica



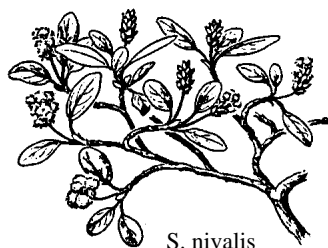
S. tweedyi



Salix vestita



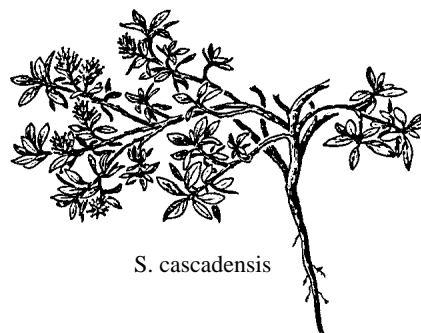
S. geyeriana



S. nivalis



S. brachycarpa



S. cascadiensis



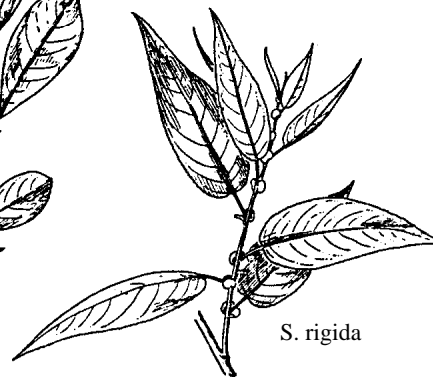
Salix pedicellaris



S. barclayi



S. scouleriana



S. rigida



S. lasiandra



S. piperi



S. hookeriana